

REMARKS

Prior to the examination of the above-referenced case on the merits, please enter the following amendments and consider the following remarks. Claims 1, 8-10, 18, and 25-27 have been amended. No claims have been added or cancelled. No new matter has been introduced. Thus, claims 1-34 are pending.

The Examiner rejected claims 1-17 and 27-34 under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent App. Pub. 2001/0032308 of Grochowski et al. (hereinafter "Grochowski"). Applicant respectfully submits that the claims, as amended, include features and limitations which are not described or suggested by the prior art cited by the Examiner.

Grochowski describes a method for executing an instruction based on a predicted predicate value (Grochowski, Abstract; Figures 5-6). A confidence value is predicted for a predicate of an instruction (Grochowski, Figure 5, element 510). If the confidence value is greater than a threshold, the predicted predicate is used and the instruction is executed (Grochowski, paragraphs 10-11; paragraphs 59-61). However, if the confidence value is below the threshold, the instruction is stalled by issuing a series of no-ops, until the actual predicate is known (Grochowski, paragraph 62). The actual predicate is then used in the instruction (Grochowski, paragraphs 21-22).

Claim 1, as amended, recites:

A processor, comprising:

a predicate predictor to determine a predicted predicate value and a confidence value for the predicted predicate value for a first instruction with a predicate; and

a micro-op generator to conditionally issue one or more micro-ops from a first set of micro-ops based on the predicted predicate value of said first instruction when said confidence value is high and a sequence of micro-ops that implement the predicate of the first instruction when said confidence value is low.

Thus, Applicant claims a processor for conditionally issuing micro-ops from a first set based on the predicted predicate value when the confidence value for the prediction is high, and issuing a sequence of micro-ops that implement the predicate when the confidence value for the prediction is low. In either case, micro-ops are issued by the processor to implement the predicate the instruction, without having to wait for the actual predicate value, thereby eliminating the need to stall the processor.

The Examiner submitted that “Paragraphs 21 and 22 [of Grochowski], which states that if the confidence value is low, the instruction is stalled by treating it as a no-op, which could occur sever times in a row as evidenced by Paragraph 31. Thus, the act of stalling inserts no-op’s into the pipeline for some amount of time” until the actual predicate value is known and can be utilized by the instruction (Final Office, mailed 9/20/2006, page 10, paragraph 33). Applicant submits that Grochowski, however, fails to describe or even suggest conditionally issuing micro-ops from a first or second set of micro-ops based on a predicted predicate value, because Grochowski merely provides for issuing the instruction with either a predicated value or the actual value. In either case, the micro-ops issued by Growchowski are identical in that they simply carry out the instruction. However, even assuming for sake of argument that no-ops issued by Grochowski to stall an instruction until an actual predicate value is known, would

constitute a second set of micro-ops conditionally issued by a processor, the micro-ops merely stall a processor pipeline, but do not implement the predicate of the instruction. Therefore, the Applicant respectfully submits that Grochowski does not anticipate the invention as claimed in claim 1 for at least the reasons discussed above.

Accordingly, Applicant respectfully submits that the rejection of claim 1 under 35 U.S.C. § 102(b) has been overcome by the remarks. Since independent claims 10 and 27 contain similar features and limitations to those discussed above, claims 10 and 27 are also not anticipated by Grochowski under 35 U.S.C. § 102(b) for similar reasons. The Applicant respectfully requests withdrawal of the rejection.

Further, dependent claims 2-9, 11-17, and 28-34 depend from independent claims 1, 10, and 27, respectively, and include additional features and limitations. Since claims 1, 10, and 27 were not anticipated by Grochowski under 35 U.S.C. § 102, Grochowski also fails to anticipate claims 2-9, 11-17, and 28-34 under 35 U.S.C. § 102. The Applicant respectfully requests withdrawal of the rejection.

The Examiner rejected claims 18-26 under 35 U.S.C. § 103(a) as being unpatentable over Grochowski in view of Free Online Dictionary of Computing (hereinafter "Foldoc"). Similar to the discussion above with respect to independent claim 27, independent claim 18 includes limitations directed towards selectively executing a set of micro-ops based on a confidence value for a predicted predicate value of an instruction. As discussed above, however, Grochowski fails to describe limitations directed towards selectively executing a set of micro-ops based on a confidence value for a predicted predicate value of an instruction. Foldoc is an online computing terms

dictionary, from which high level definitions of a computer, input/output, and peripheral were cited by the Examiner. However, the definitions of a computer, input/output, and peripheral fail to address executing instructions, micro-ops, predicted predicate values, etc. Therefore, the definitions cited from Foldoc also fail to describe or suggest limitations directed towards selectively executing a set of micro-ops based on a confidence value for a predicted predicate value of an instruction. Thus, for reasons similar to those discussed above, Grochowski and Foldoc, alone or in combination, fail to describe or suggest the limitations as claimed in claim 18. Thus, the Applicants respectfully submit that claim 18 is not rendered obvious by Grochowski in view of Foldoc. Furthermore, since claims 19-26 depend directly or indirectly from independent claim 18, and include additional features and limitations, claims 19-26 are also not rendered obvious by Grochowski in view of Foldoc, for at least the reasons discussed above. The Applicant respectfully requests withdrawal of the rejections under 35 U.S.C. § 103.

CONCLUSION

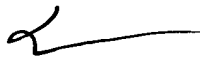
In view of the foregoing, Applicant respectfully submits that the applicable rejections have been overcome. Therefore, claims 1-34 are in condition for allowance and such action is earnestly solicited. The Examiner is respectfully requested to contact the undersigned by telephone if such contact would further the examination of the present application.

If there are any additional charges, please charge Deposit Account No. 02-2666 for any fee deficiency that may be due.

Respectfully submitted,

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